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| APPLICATION NO.                             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.   | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------|------------------|
| 10/707,214                                  | 11/26/2003  | Bruce Albrecht       | ITW7510.073           | 1213             |
| 33647                                       | 7590        | 05/13/2005           | EXAMINER              |                  |
| ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ITW) |             |                      | SHARP, JEFFREY ANDREW |                  |
| 14135 NORTH CEDARBURG ROAD                  |             |                      |                       |                  |
| MEQUON, WI 53097                            |             |                      | ART UNIT              | PAPER NUMBER     |

3677

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/707,214 | <b>Applicant(s)</b><br>ALBRECHT ET AL. |  |
|                              | <b>Examiner</b><br>Jeffrey Sharp     | <b>Art Unit</b><br>3677                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Status of Claims*

- [1] Claims 1-29 are pending.

### *Claim Objections*

- [2] Claim 9 is objected to because of the following informalities:

There is insufficient antecedent basis for the limitation "the plurality of recesses".

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

- [3] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- [4] Claims 1, 2, 4-11, 13-18, 23-29 rejected under 35 U.S.C. 102(b) as being anticipated by

Rohe US-2,784,758.

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In short, with the claims given their broadest reasonable interpretation, Rohe teaches a weld stud (Figure 6) comprising:

a first end (topside 15)

having a radially outwardly extending flange (15);

a second end (bottomside 25)

having a recess(es) (13 and between 16,18c),

having a nipple (25c) protruding beyond

a plurality of concentric and annular projections (16,18c) that are geometrically centered about the second end,

wherein a majority of the second end (i.e., "weld end") has a non-planar surface (16,18c,25c)<sup>1</sup>, and the second end comprises a nipple (25) and generally planar surface (14)<sup>2</sup> so as to increase the current density at the second end.

As for method claims 18, 23, and 24, the structure disclosed by Rohe inherently anticipates the method claims.

### ***Claim Rejections - 35 USC § 103***

[5] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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[6] Claims 3, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohe US-2,784,758 in view of Duffy et al. US-5,685,680.

Rohe substantially teaches all of the limitations disclosed in parent claims 1, 10, and 18.

However, Rohe fails to disclose expressly a flux pocket/powdered metal encapsulation within the end of the weld stud.

Duffy et al. suggest<sup>3</sup> placing a flux portion within the end of the weld stud which can 1) provide a weld using less current, 2) provide a better weld puddle and flow thereof, and 3) prevent rapid oxidation by allowing a lower melting temperature.

At the time of invention, it would have been obvious to one of ordinary skill in the art to modify the weld stud taught by Rohe, to comprise a flux portion as suggested by Duffy et al., in order to achieve a better weld with a substrate.

As for the specific material combination, many types of fluxes are commercially available. Note that it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. It is also common knowledge to choose a material that has sufficient strength, durability, flexibility, hardness, etc. for the application and intended use of that material. In the instant case, the type of flux used on a weld stud is an engineering variable, and different results are expected for different types of flux.<sup>4</sup>

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<sup>1</sup> Pertinent to the instant claim 10.

<sup>2</sup> Pertinent to the instant claim 18.

<sup>3</sup> Figure 3, col. 3 lines 63-67.

<sup>4</sup> Aufhauser NPL.

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[7] Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rohe US-2,784,758 in view of Irimies US-5,493,833<sup>5</sup>.

Rohe substantially teaches the limitations of claim 18.

However, Rohe fails to disclose expressly the specific method used to manufacture the weld stud.

Irimies suggests that cold-forming (e.g., "stamping") techniques could be used to make weld studs. It would be further be obvious to those of ordinary skill in the art, that "machining"<sup>6</sup> and "etching"<sup>7</sup> processes could alternatively be used to fabricate the grooves.

At the time of invention, it would have been obvious to one of ordinary skill in the art, to manufacture the weld stud second end (i.e., "weld end") using any of the abovementioned processes as suggested by the teachings of Irimies and others.

Note that method claims have not yet been restricted as they are being treated on their merits based on weld stud structure alone. The determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art. A comparison of the recited process with the prior art processes does NOT serve to resolve the issue concerning patentability of the product. *In re Fessman*, 489 F2d 742, 180 USPQ 324 (CCPA 1974). Whether a product is patentable depends

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<sup>5</sup> Note Figure 3, element 18.

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on whether it is known in the art or it is obvious, and is not governed by whether the process by which it is made is patentable. *In re Klug*, 333 F.2d 905, 142 USPQ 161 (CCPA 1964). In an ex parte case, product by process claims are not construed as being limited to the product formed by the specific process recited. *In re Hirao et al.*, 535 F.2d 67, 190 USPQ 15, see footnote 3 (CCPA 1976). Furthermore, Applicant has not provided convincing evidence that stamping, machining, or etching processes for creating the grooves would provide an unexpected result, or positively influence the performance of the weld stud.

### ***Conclusion***

[8] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

US-2,707,507 to Tripp et al.

US-2,054,187 to Almdale Figs. 5 and 10, col. 2 lines 18-32, claim 7

US-2,096,623 to Almdale Fig. 5, col. 2 lines 29-41.

US-3,199,566 to Dyka Fig 3, element 33.

US-3,279,517 to Logan

US-4,263,831 to Smith

US-5,533,850 to Ishihara et al.

US-2003/0175092 to Ohta discloses most of the limitations disclosed in the claims.

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<sup>6</sup> As evidenced by Nilsen et al. US-2004/0109740A1 [0051] lines 2-4, and Franks US-4,684,304 col. 2 lines 3-7.

<sup>7</sup> As evidenced by Schmitt et al. US-6,860,687 col. 2 lines 35-36.





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[9] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached 7:00 am - 5:30 pm Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS

  
5/4/05  
ROBERT J. SANDY  
PRIMARY EXAMINER